

PROGRAMMING IN C

K1 Level Questions

MULTIPLE CHOICE QUESTIONS

UNIT- 1

1. All keywords in C are in _____
a) **LowerCase letters**
b) UpperCase letters
c) CamelCase letters
d) None of the mentioned
2. Which of the following is not a valid variable name declaration?
a) float PI = 3.14;
b) double PI = 3.14;
c) int PI = 3.14;
d) **#define PI 3.14**
3. Which of the following cannot be a variable name in C?
a) **volatile**
b) true
c) friend
d) export
4. The format identifier '%i' is also used for _____ data type.
a) char
b) **int**
c) float
d) double
5. Which is correct with respect to the size of the data types?
a) char > int > float
b) int > char > float
c) **char < int < double**
d) double > char > int
6. enum types are processed by _____
a) **Compiler**
b) Preprocessor

- c) Linker
- d) Assembler

7. Which of the following is not a pointer declaration?

- a) `char a[10];`
- b) `char a[] = { '1', '2', '3', '4' };`
- c) `char *str;`
- d) `char a;`**

8. Relational operators cannot be used on _____

- a) structure**
- b) long
- c) strings
- d) float

9. Operation “`a = a * b + a`” can also be written as _____

- a) `a *= b + 1;`
- b) `(c = a * b) != (a = c + a);`
- c) `a = (b + 1) * a;`
- d) All of the above**

10. `Strcat()` function adds null character.

- a) Only if there is space
- b) Always**
- c) Depends on the standard
- d) Depends on the compiler

UNIT- 2

1. Which of the following represents the function for `scanf()`?

- a) `void scanf(char *format, ...)`
- b) `int scanf(char *format, ...)`**
- c) `char scanf(int format, ...)`
- d) `char *scanf(char *format, ...)`

2. Which of the following is an invalid method for input?

- a) `scanf(“%d%d%d”, &a, &b, &c);`
- b) `scanf(“%d %d %d”, &a, &b, &c);`
- c) `scanf(“Three values are %d %d %d”, &a, &b, &c);`
- d) none of the above**

3. Function `fabs` defined `math.h` header file takes argument of type integer.

- a) True

b) False

- c) Depends on the implementation
- d) Depends on the standard

4. $\log(x)$ function defined in math.h header file is _____

a) Natural base logarithm

- b) Logarithm to the base 2
- c) Logarithm to the base 10
- d) None of the mentioned

5. The maximum number of characters to be printed is specified by _____

a) precision

- b) width
- c) length
- d) flags

6. _____ is used to define the type and the interpretation of the value of the corresponding argument.

a) precision

b) specifiers

- c) flags
- d) decimal

7. The size of a union is determined by the size of the _____

a) First member in the union

b) Last member in the union

c) Biggest member in the union

d) Sum of the sizes of all members

8. A user defined data type, which is used to assign names to integral constants is called:

a) Union

b) Array

c) Structure

d) Enum

9. There are two groups of string functions defined in the header <string.h>. What are they?

a) first group names beginning with str; second group names beginning with mem

b) first group names beginning with str; second group names beginning with is

c) first group names beginning with string; second group names beginning with mem

d) first group names beginning with str; second group names beginning with type

10. What is the use of function `char *strchr(ch, c)`?

a) return pointer to first occurrence of ch in c or NULL if not present

b) return pointer to first occurrence of c in ch or NULL if not present

c) return pointer to first occurrence of ch in c or ignores if not present

d) return pointer to first occurrence of cin ch or ignores if not present

UNIT- 3

1. The data structure used to implement recursive function calls _____

a) Array

b) Linked list

c) Binary tree

d) Stack

2. In the absence of a exit condition in a recursive function, the following error is given _____

a) Compile time error

b) Run time error

c) Logical error

d) No error

3. The principle of stack is _____

a) First in first out

b) First in last out

c) Last in first out

d) Last in last out

4. Name the function whose definition can be substituted at a place where its function call is made:

a) friends function

b) inline function

c) volatile function

d) external function

5. In a signed integer, the sign is represented by _____

a) Least significant bit

b) Most significant bit

c) System dependent

d) The mean of the most significant bit and the least significant bit

6. Which of the following header files must necessarily be included in your code, if you want to find the minimum value of unsigned short integer?

a) stdio.h

- b) `stdlib.h`
- c) `limits.h`**
- d) `math.h`

7. Local variables are stored in an area called _____

- a) Heap
- b) Permanent storage area
- c) Free memory
- d) Stack**

8. Choose the statement which is incorrect with respect to dynamic memory allocation.

- a) Memory is allocated in a less structured area of memory, known as heap
- b) Used for unpredictable memory requirements
- c) Execution of the program is faster than that of static memory allocation**
- d) Allocated memory can be changed during the run time of the program based on the requirement of the program

9. Which of the following header files must necessarily be included to use dynamic memory allocation functions?

- a) `stdlib.h`**
- b) `stdio.h`
- c) `memory.h`
- d) `dos.h`

10. Which of the following is an example for static memory allocation?

- a) Linked list
- b) Stack
- c) Queue
- d) Array**

UNIT- 4

1. What will `sin(x)` returns?

- a) sine of x where x is in radians**
- b) sine of x where x is in degree
- c) cosine of x where x is in radians
- d) cosine of x where x is in degree

2. What is the meaning of the following C statement?

```
printf("%10s", state);
```

a) 10 spaces before the string state is printed

b) Print empty spaces if the string state is less than 10 characters

c) Print the last 10 characters of the string

d) None of the mentioned

3. Select the correct value of i from given options `i=scanf("%d %d", &a, &b);`

a) 1

b) 2

c) 3

d) No value assigned

4. What error will be generated on using incorrect specifier for the datatype being read?

a) compile error

b) run-time error

c) logical error

d) no error

5. `scanf()` is a predefined function in _____ header file.

a) `stdlib. h`

b) `ctype. h`

c) `stdio. h`

d) `stdarg. H`

6. On freeing a dynamic memory, if the pointer value is not modified, then the pointer points to.

a) NULL

b) Other dynamically allocated memory

c) The same deallocated memory location

d) It points back to location it was initialized with 0

7. `calloc()` initialize memory with all bits set to zero.

a) True

b) False

c) Depends on the compiler

d) Depends on the standard

8. Which option should be selected to work the following C expression?

```
string p = "HELLO";
```

a) `typedef char [] string;`

b) `typedef char *string;`

c) `typedef char [] string;` and `typedef char *string;`

d) Such expression cannot be generated in C

9. Break statement is used for

- a) Quit a program
- b) Quit the current iteration**
- c) Both of above
- d) None of above

10. Which operator has the highest priority

- a) ()**
- b) []
- c) *
- d) /

UNIT- 5

1. Automatic variables are _____

- a) Declared within the scope of a block, usually a function**
- b) Declared outside all functions
- c) Declared with auto keyword
- d) Declared within the keyword extern

2. Automatic variables are allocated memory in _____

- a) heap
- b) Data segment
- c) Code segment
- d) stack**

3. What is the scope of automatic variable?

- a) Exist only within that scope in which it is declared
- b) Cease to exist after the block is exited
- c) Exist only within that scope in which it is declared & exist after the block is exited**
- d) All of the mentioned

4. What do the following declaration signify?

```
int (*pf)();
```

- a. pf is a pointer to function.
- b. pf is a function pointer.
- c. pf is a pointer to a function which return int**

d. pf is a function of pointer variable.

5. What do the following declaration signify?

```
char *arr[10];
```

a. arr is a array of 10 character pointers.

b. arr is a array of function pointer.

c. arr is a array of characters.

d. arr is a pointer to array of characters.

6. How will you free the allocated memory?

a. remove(var-name);

b. free(var-name);

c. delete(var-name);

d. dalloc(var-name);

7. What does the following declaration mean?

```
int (*ptr)[10];
```

a. ptr is array of pointers to 10 integers

b. ptr is a pointer to an array of 10 integers

c. ptr is an array of 10 integers

d. ptr is an pointer to array

8. How many main() function we can have in our project?

a.1

b. 2

c. No Limit

d. Depends on Compiler

9. What is sizeof() in C?

a. Operator

b. Function

c. Macro

d. None of these

10. How many loops are there in C.

a.2

b. 3

c. 4

d. 1

Programming in C

K2 Level Questions

UNIT- 1

1. Which of the data types has the size that is variable?

struct

2. Which type of variables can have same name in different function?

Both static variables and Function arguments

3. Which keyword can be used for coming out of recursion?

return

4. Which keyword is used to come out of a loop only for that iteration?

continue

5. What type of inputs are accepted by mathematical functions?

double

6. What error is generated on placing an address operator with a variable in the printf statement?

run-time error

7. Define Enum datatype?

A user defined data type, which is used to assign names to integral constants is called Enum data type.

8. Which function will you choose to join two words?

strcat()

9. Which function will you choose to join two words?

strcat()

10. What is the default state of an integer in c language?

Signed

UNIT-2

1. What is the binary representation of the integer -14?

11110

2. What are the applications of a multidimensional array?

i) Matrix-Multiplication

ii) Minimum Spanning Tree

iii) Finding connectivity between nodes

3. What is the prototype of scanf function?

scanf("controlstring",arg1,arg2,arg3,....,argn);

4. What is the qualifying input for the type specifier C?

floating point numbers in the shorter of exponential format

5. What is the Difference between calloc() and malloc()?

malloc() takes a single argument while calloc() needs two arguments

6. What is the purpose of getc()?

read a character from a file

7. What is the Difference between structure and union ?

The way memory is allocated

8. The ASCII code of 'A' is?

41H

9. Which operator has the highest precedence?

postfix

10. What is important difference between structure & union?

Union takes less memory

UNIT-3

1. What will strcmp() function do?

compares the string

2. When C Language was invented?

1972

3. Library function getch() belongs to which header file?

conio.h

4. Library function pow() belongs to which header file?

math.h

5. Numbers are stored and transmitted inside a computer in which format?

binary form

6. What is an Operator and Operand?

An operator is a symbol that specifies an operation to be performed on operands.

7. What is Ternary operators or Conditional operators?

Ternary operators is a conditional operator with symbols ? and :

Syntax: variable = exp1 ? exp2 : exp3

8. What are the logical operators available in 'C'?

The logical operators available in 'C' are

&& - Logical AND

|| - Logical OR

! - Logical NOT

9. What is the difference between '=' and '==' operator?

Where = is an assignment operator and == is a relational operator.

10. What is type casting?

Type casting is the process of converting the value of an expression to a particular data type.

UNIT-4

1. What is the difference between 'a' and "a"?

'a' is a character constant and "a" is a string.

2. What is the difference between while loop and do...while loop?

In the while loop the condition is first executed. If the condition is true then it executes the body of the loop. When the condition is false it comes out of the loop. In the do...while loop first the statement is executed and then the condition is checked. The do...while loop will execute at least one time even though the condition is false at the very first time.

3. What is a Modulo Operator?

'%' is modulo operator. It gives the remainder of an integer division

4. What is the difference between ++a and a++?

++a means do the increment before the operation (pre increment) a++ means do the increment after the operation

5. What is a String?

String is an array of characters.

6. What is a global variable?

The global variable is a variable that is declared outside of all the functions. The global variable is stored in memory, the default value is zero. Scope of this variable is available in all the functions. Life as long as the program's execution doesn't come to an end.

7. What will happen when you access the array more than its dimension?

When you access the array more than its dimensions some garbage value is stored in the array.

8. What is the difference between scanf() and gets() function?

In scanf() when there is a blank was typed, the scanf() assumes that it is an end.

9. What is a Structure?

Structure is a group name in which dissimilar data's are grouped together.

10. What is meant by Control String in Input/Output Statements?

Control Statements contains the format code characters, specifies the type of data that the user accessed within the Input/Output statements.

UNIT-5

1. What is Union?

Union is a group name used to define dissimilar data types. The union occupies only the maximum byte of the data type. If you declare integer and character, then the union occupies only 2 bytes, whereas structure occupies only 3 bytes.

2. What do you mean by variables in 'C'?

- A variable is a data name used for storing a data value.
- Can be assigned different values at different times during program execution.

3. Distinguish between while..do and do..while statement in C.

While..DO

(i) Executes the statements within the while block if only the condition is true.

(ii) The condition is checked at the starting of the loop

DO..while

(i) Executes the statements within the while block at least once.

(ii) The condition is checked at the end of the loop

4. What is a loop control statement?

Many tasks done with the help of a computer are repetitive in nature. Such tasks can be done with loop control statements.

5. What are global variable in 'C'?

- This section declares some variables that are used in more than one function. such variable are called as global variables.
- It should be declared outside all functions.

6. Define compiler.

It is a program used to convert the high level language program into machine language.

7. 1. What is function?

To break a program into segments are commonly known as functions. Each of which can be written more or less independently of the others. Every function in the program is supposed to perform a well-defined task.

8. What is function prototype or function interface?

A function definition specifies how the function does what it does (implementation), a function prototype merely specifies its interface, (i.e) what data types go in and come out of it. The term function prototype is particularly used in forward declarations of functions in headerfiles allows for splitting a program into translation units.

9. What is function declaration?

Before using a function, the compiler must know the number of parameters and the type of parameters that the function expects to receive and the datatype of value that it will return to the calling program. Placing the function declaration statement prior to its use enables the compiler to make a check on the arguments used while calling that function.

10. What is recursion?

Recursion is the process of repeating items in a self similar way. In programming languages, if a program allows you to call a function inside the same function, then it is called a recursive call of the function.

PROGRAMMING IN C

K3 LEVEL QUESTIONS

UNIT- 1

1. What is the difference between break and continue statements. Give an example
2. Explain various jump statements in C language.
3. What is the difference between While and Do- While? Give an example.
4. What is the difference between call by value and call by address. Explain with the help of the example.
5. Write a program to generate Fibonacci series using recursive function.
6. Explain the importance of C language.
7. What is format specifier? Explain with Example.
8. What are local and global variable? Explain with example.
9. Define keyword, constant and variable.
10. Write a short note on type casting.

UNIT- 2

11. What is the difference between strlen() and sizeof() with example?
12. Why do we use header files? Explain with example.
13. Define relational operator? Explain with example.
14. What is the syntax of switch statement? Explain with example.
15. Differentiate between expression and statement. With example

UNIT- 1

16. Distinguish between unary and binary minus.
17. Discuss the structure of a C program. Explain with example.
18. What are the various I/O functions in C?
19. What do you mean by data types? Give examples of data types available in C language.
20. Explain the various control statements used in c language.

UNIT- 3

21. Write a C program to find the real root of a quadratic equation of type $ax^2+bx+c = 0$, where a is not equal to 0.

22. What is the difference between pre and post increment operator? Explain with the help of an example.
23. Write a program in C language to find out the sum of first n natural numbers using do while loop.
24. What do you mean by formal arguments and the actual arguments?
25. What do you mean by functions? With example.
26. Write a short notes on parameter passing?
27. Define array and how we can access elements of an array?
28. What is the purpose of the return statement? With example.
29. Explain the function prototyping.
30. What is the typedef declaration? Give suitable example.

UNIT- 4

31. What is the role played by atoi() in string manipulation?
32. Give the syntax and application of extern storage class?
33. What are String functions and write some string function?
34. Write a program to find sum of two matrices.
35. Write a program to find the transpose of a matrix.
36. Explain with example the concept of passing array to function.
37. Write a program to multiply any two matrixes.
38. Write a program to sort in ascending order integer elements of the one dimensional array.
39. Differentiate between pass by Value and pass by reference with the help of example.
40. What is a pointer to an array and an array of pointers?

UNIT- 5

41. Write a program to swap two variables by using call by reference.
42. What is the difference between static and dynamic memory allocation?
43. What do you mean by structure? How does a structure differ from an array?
44. Explain with examples the various file handling functions.
45. (a) Explain the following & illustrate it with an example each.
 - i. Increment & Decrement operator.
 - ii. Conditional operator.
 - iii. Bitwise operator.
 - iv. Assignment operator.
46. What is a pointer? Explain How the pointer variable declared and initialized.
47. Explain two dimensional array with example.
48. Write a short notes on strcat and strcpy with example.
49. Write a short notes on if.. and if else.. with example.
50. Write a short notes on pointer.

PROGRAMMING IN C

K4 LEVEL QUESTIONS

UNIT- 1

1. Explain the types of operator with example.
2. Write and explain the basic concept of a c program.
3. Write the guidelines to use printf() function in c language.
4. Explain the types of if.. statements with example.
5. Explain the switch statement with syntax and example.

UNIT- 2

6. Explain the different types of loops in c with example.
7. Explain the use of break and continue statements in loops with example.
8. What is an array? Explain the declaration and initialization of one and two dimensional array with example.
9. Write a c program for finding the addition of two matrices.
10. Write a c program for finding the multiplication of two matrix.

UNIT- 3

11. Explain any five string manipulation functions with example.
12. Write a c program to sort a list of strings in alphabetical order.
13. Explain array of structure and structure within a structure with example.
14. Explain the features of 'for' statement with example.
15. Write a short notes on declaring and initializing string variables.

UNIT- 4

16. Explain the return values and their types with example.
17. Explain the functions with arrays with example.
18. Write a short notes on no arguments and no return values with example.
19. Write a program to illustrate the use of pointers in one dimensional array.
20. Write a program to calculate mean and standard deviation of a given series of numbers.

UNIT- 5

21. Write short notes on declaring and initializing pointers with example.
22. Explain pointers and characters strings with example.
23. Explain pointer expressions with example.
24. Explain pointers as function arguments with example.
25. Write a program to check whether the number is prime or not.